

DEVELOPMENT OF TRANSGENIC LINES OF RICE (*ORYZA SATIVA* (L.) EXPRESSING *CAHB12* GENE FOR DROUGHT TOLERANCE

¹BEVITORI, R., ²GUIMARÃES, L. S. M., ¹COELHO, G. R. C., ³LAU, E. Y., ⁴ROMANO, E.

Key words: abiotic stress, rice genetically modified

Drought stress, which can negatively affect plant growth and productivity, has become an increasingly severe problem worldwide. It is, therefore, a major constraint on rice production in water-limited environments. The development of rice varieties with increased tolerance to drought, by both conventional and molecular breeding methods and by genetic engineering, is an important strategy to meet global rice demands with less water. In this study, we developed transgenic rice lines harboring the gene *CAHB12* from *Coffearabica*. *Agrobacterium tumefaciens* strain EH105 carrying the pUCE plasmid was used. To control the expression of *CAHB12* the soybean uceS8.3 and maize ubiquitin promoters were used. Three T₀ transgenic plants were confirmed for the gene integration by PCR. Quantitative Real-Time analysis revealed differential gene expression between transgenic lines. Twelve transgenic plants are be grown in the biosafety greenhouse for further drought characterization in an automated phenotyping plataform – SITIS (Integrated System for Drought Induced Treatment) at Embrapa Rice and Beans.

¹Eng. Agron., Ph. D, Embrapa Arroz e Feijão, Rod. GO 462, km 12, CEP 75375-000, Santo Antônio de Goiás, GO, e-mail: rosangela.bevitori@embrapa.br

² Uni-Anhanguera

³ Embrapa Trigo

⁴ Embrapa Recursos Genéticos e Biotecnologia